

### 3.5 CULTURAL RESOURCES

This section addresses potential impacts to cultural resources from implementation of the proposed Conservation Plan and alternatives. Cultural resources include, but are not limited to, prehistoric and historic sites, districts, buildings, structures, objects, etc., of importance to the study or appreciation of history, archaeology, architecture, other scientific disciplines, and/or that are valued by a cultural group or community.

Impacts may be direct or indirect. Direct impacts are those ground-disturbing activities that are directly associated with the implementation of the proposed action, including vegetation removal, revegetation, and periodic vegetation control, grading and contouring, trenching, dredging, and other land modifications associated with conservation area establishment, upgrading of existing infrastructure, and construction and maintenance of new infrastructure such as above-ground distribution canals, side channels, swales, berms, irrigation systems, and fish production and field facilities. Other elements that can directly affect cultural resources include, for example, construction and use of staging areas, access roads, borrow pits, dredge disposal sites, and installation of barriers, covers, shields and other devices to control erosion and ensure that construction materials, equipment, and contaminants/pollutants do not enter watercourses. Indirect impacts are here defined as bank erosion and other natural land-disturbing processes that may inadvertently result from the functioning of the new and improved conservation areas.

#### Federal Regulations

Passage of the National Historic Preservation Act (NHPA) in 1966 established the Federal historic preservation program and made it the policy of the Federal government, in partnership with the states, local governments, Indian tribes, and private organizations and individuals, to preserve, protect, and manage cultural resources for "the inspiration and benefit of present and future generations" (16 U.S.C. 470-1, section 2[3]).

Section 106 of the NHPA directs Federal agencies to take into account the effects of their actions on historic properties and to afford the Advisory Council on Historic Preservation an opportunity to comment with respect to the effects of the undertaking. Implementing regulations for section 106 are found at 36 CFR 800, and establish the procedures Federal agencies must follow when assessing the effects of a proposed action on historic properties. The term "historic properties" is defined at 36 CFR 800.16(l)(1) as "....any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places [NRHP]...[and] includes properties of traditional religious importance to an Indian tribe or Native Hawaiian organization that meet the National Register criteria."

To be eligible for listing on the NRHP, a cultural resource must be at least 50 years old (although there are exceptions) and must meet one or more of the eligibility criteria set forth at 36 CFR 60.4 which state:

The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and

objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons that are significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or (d) that have yielded, or may likely yield, information important in prehistory or history.

Cultural resources are evaluated for potential listing on the NRHP with reference to an historic context and associated research questions, in consultation with the SHPO and/or Tribal Historic Preservation Officer, tribes, and other interested organizations and individuals.

Pursuant to Executive Order (EO) 13007 agencies must also consider the effects of their actions on the physical integrity of sacred sites, and access to and ceremonial use of such sites by Indian religious practitioners. EO 13007 defines a “sacred site” as:

...any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.

EO 13007 directs Federal agencies “...to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions,” to accommodate access to and use of such sites by Native American traditional religious practitioners, and to avoid affecting their physical integrity.

#### **Arizona Regulations**

Chapter 4.2 of the Arizona Revised Statutes addresses historic preservation issues. While a specific historic preservation compliance process is not identified, the preamble to Article 1 states:

- B. It is the intent of the legislature that this state, in cooperation with the political subdivisions of this state, Federal agencies, Indian tribes, and other persons....
2. Provide leadership in the identification and preservation of the prehistoric and historic resources of this state.
3. Administer state owned, administered or controlled prehistoric and historic resources in a spirit of stewardship for the inspiration and benefit of present and future generations.

Chapter 4.2, Article 1 goes on to assign responsibility for preservation of historic properties owned and controlled by the agency, to the chief administrator of each agency (section 41-861).

All state agencies are directed to cooperate with the SHPO in developing a program to locate, inventory, and nominate to the Arizona Register of Historic Places all properties under the agency's ownership or control that appear to meet the criteria for inclusion on the register (section 41-862). In the event a direct action or one assisted by a state agency will result in substantial alteration to or destruction of an historic property, state agencies are directed to initiate measures to document the property to the standards established by the state historic preservation officer (section 41-863). And lastly, section 41-864 accords the SHPO 30 days:

...to review and comment on any plans of a state agency which involve property which is included on or may qualify for inclusion on the Arizona register of historic places, including any construction project, sale, lease, or acquisition of historic properties, to ensure that the prehistorical, historical, architectural or culturally significant values will be preserved or enhanced.

### California

Section 15064.5 of the State CEQA Guidelines provides that a project may have a significant environmental effect if it causes "substantial adverse change" in the significance of an historical resource or a unique archaeological resource. Historical resources are defined in State CEQA Guidelines section 15064.5 as any of the following:

- (1) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, section 4850 et seq.).
- (2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- (3) Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, section 4852), including the following:
  - (A) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
  - (B) is associated with the lives of persons important in our past;

(C) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) has yielded, or may be likely to yield, information important in prehistory or history.

The guidelines specify that a lead agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of an historical resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures.

The guidelines specify that if an archaeological site does not meet the criteria for being designated a historical resource, but does meet the definition of a unique archeological resource in section 21083.2 of the PRC, impacts to the site shall also be treated or mitigated.

If an archaeological resource is neither a unique archaeological nor an historical resource, the guidelines indicate that effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

#### **Nevada**

Nevada Revised Statutes (NRS) Chapter 383 addresses historic preservation and archaeology. NRS 383.021 provided for the establishment of the Office of Historic Preservation (OHP). A specific historic preservation compliance process is not identified. However, NRS 383.121 states:

1. All departments, commissions, boards, and other agencies of the state and its political subdivisions shall cooperate with the office [i.e., OHP] in order to salvage or preserve historic, prehistoric, or paleoenvironmental evidence located on property owned or controlled by the United States, the State of Nevada or its political subdivisions.
2. When any agency of the state or its political subdivisions is preparing or has contracted to excavate or perform work of any kind on property owned or controlled by the United States, the State of Nevada or its political subdivisions which may endanger historic, prehistoric or paleoenvironmental evidence found on the property, or when any artifact, site or other historic or prehistoric evidence is discovered during the course of such excavation or work, the agency or the contractor hired by the agency shall notify the office and cooperate with the office to the fullest extent practicable, within the appropriations available to the agency or political subdivision for that purpose, to preserve or permit study of such evidence before its destruction, displacement, or removal.

### 3.5.1 Affected Environment

The “area of potential effects” (APE) of an undertaking is defined at 36 CFR 800.16(d) as “the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist.” This section goes on to state “the [APE] is influenced by the scale of the undertaking and may be different for different kinds of effects cause [sic] by the undertaking.” The APE considered in this EIS/EIR includes the planning area, which extends from the full pool elevation of Lake Mead to the SIB (applicable to Alternatives 1-3), as well as the lower reaches of the Virgin, Muddy, Bill Williams, and Gila rivers, which are addressed as part of Alternative 4. For the purposes of the cultural resources identification and effects evaluation process, three buffer areas were defined around the lakes that extend for a distance of 1 mile to the landward side of the high surface elevation of Lake Mead, along with 0.25-mile buffers extending to the landward side of the high surface water elevation contours of Lakes Mohave and Havasu.

The following discusses the nature and range of cultural resources recorded within the planning area and off-site conservation areas. Areas chosen for conservation area establishment would be selected from one or more of the following categories:

- Up to 30 potentially suitable conservation area sites that have been identified, surveyed, and evaluated by the LCR MSCP. These include 36,500 acres of land initially believed to have potential for successful implementation of conservation measures. These sites encompass lands situated on the historic floodplain of the Colorado River below the first river terrace/scarp;
- Potential off-site conservation areas along the lower reaches of the Virgin, Muddy, Bill Williams, and Gila rivers;
- Available agricultural lands; and
- Other undeveloped areas.

Although any or all of these area types may be selected for Conservation Plan implementation, the following discussion focuses on known and predicted resources within the 30 potential conservation areas because (1) they are located in all reaches of the LCR (Figure 2.1-10 and Table 3.5-1) and thus for programmatic purposes can be considered generally representative of the geographic distribution and range of cultural resource types that may occur within the planning area, and (2) Reclamation has initiated a comprehensive Class I inventory report to characterize these 30 areas in terms of known cultural resources and the nature, location and adequacy of previous cultural resource studies. The focus on gathering and analyzing existing data, as opposed to conducting more intensive Class II (sample) or Class III (100 percent) field surveys, is appropriate given that the locations of specific areas where the conservation measures may be implemented, and the specific details of each project/action that might be undertaken, are not yet known. Given the programmatic character of the LCR MSCP and the fact the LCR MSCP participants will be required to comply with environmental and historic preservation laws and regulations in effect at the time specific projects are planned and implemented, the Class I inventory was determined to be the appropriate study for present needs. The Class I inventory study was initiated in 2000 and is still in draft form and unavailable for public distribution at this time, although the final Class I inventory report will

be submitted to the Arizona, California, and Nevada SHPOs, tribes, and other interested parties for their information and comment.

**Table 3.5-1. Concordance Between Potential Conservation Areas within the LCR MSCP Planning Area and Off-Site Areas**

<i>Reach Number</i>	<i>Description</i>	<i>Conservation Opportunity Areas (COAs) Covered</i>
1	Lake Mead full pool surface elevation of 1229' to Separation Canyon	Upper Lake Mead Lake Mead Lake Mead 1 Mile Buffer
2	Hoover Dam to Davis Dam including Lake Mohave to full pool surface elevation of 647'	Lake Mohave Lake Mohave 0.25 Mile Buffer
3	Davis Dam to Parker Dam including Lake Havasu to full pool surface elevation of 450'	Fort Mojave Topock Lake Havasu Lake Havasu 0.25 Mile Buffer
4	Parker Dam to Adobe Ruin & USBR's Cibola Gauging Station at RM 87.3	North CRIT East CRIT East-Central CRIT West CRIT South CRIT Big Hole North Palo Verde South Palo Verde Cibola Valley Irrigation & Drainage District Palo Verde Oxbow Cibola (northern 75%)
5	USBR's Cibola Gauging Station at RM 87.3 to Imperial Dam	Cibola (southern 25%) North Imperial South Imperial
6	Imperial Dam to the Northerly International Boundary at RM 32.1	Laguna Yuma
7	NIB to SIB	Limitrophe
n/a	Lower Virgin River	Virgin River
n/a	Lower Bill Williams River to Alamo Dam	Bill Williams Planet Ranch
n/a	Lower Gila River	Lower Gila River

Preliminary results of the Class I inventory, however, do allow broad conclusions consistent with the programmatic data needs of this impact assessment. That is, the available data are sufficient to identify the broad range and general location of resources that occur within the planning area and are sufficient to programmatically determine whether the implementation project could have a significant impact on cultural resources that meet criteria for listing on the NRHP, the Arizona Register of Historic Places, the California Register of Historic Places, the Nevada Register of Historic Places, or are otherwise considered unique, important, or significant by other Federal, state or local criteria.

Further details regarding the Class I inventory, its data sources and other background information are provided in Appendix E. Information provided in the draft Class I inventory report serves as the basis of the following discussion.

#### 3.5.1.1 Lower Colorado River

##### *Cultural/Historical Setting*

The LCR is now, as it was in the past, a reliable water source capable of supporting lush stands of vegetation and a wide variety of fish, birds, and other wildlife. Valleys and canyons along the course of the river and its tributaries are oases in an otherwise harsh desert, and there is little doubt they have been inhabited since Late Pleistocene times. Generally speaking, archaeological research along the River and its tributaries has been hampered by a lack of stratified sites and sites containing datable materials, and as a result, much of what is known of the sequence and character of the cultural groups that occupied the region during the prehistoric period has been extrapolated from surrounding or more distant areas whose culture histories are better known. Definitive evidence for continuous occupation of the floodplain and rocky canyons along the Colorado River since the Late Pleistocene is lacking, however. Notable exceptions to this general rule include the excavations conducted by Schroeder and others at Willow Beach below Hoover Dam (Baldwin 1948; Harrington 1937; Schroeder 1961), Harrington and Wheeler's work at sites the Muddy and Virgin River valleys prior to their submersion beneath the waters of Lake Mead (as summarized in Shutler 1961), and Lyneis' later work in the same area (e.g., Lyneis 1992). Current understanding of the prehistoric occupation along the LCR and its tributaries is summarized in a number of overviews and project specific reports including Altschul et al. (1994, 2002), Cordell (1984), Ezzo (1994a and b), Ezzo and Altschul (1993), Hoffman (1984), Huber and Ezzo (1995), McGuire and Schiffer (1982), Sterner and Bischoff (1997), Stone (1991), Swartout (1981a and b), Swartout and Drover (1981).

General summaries concerning historic period exploration and settlement of the area include Hague (1978), Schneider and Altschul (2000), Sterner and Bischoff (1997), Stone (1991), and Warren et al. (1981). Tribes with traditional and historical ties to the lower Colorado River and its tributaries under consideration here include: the Southern Paiute, Hualapai, Mohave, Colorado River Indian Tribes, Chemehuevi, Yavapai, Quechan, Cocopah, Hopi, Zuni, and Navajo tribes. Summaries of ethnographic information concerning these and other Southwestern and Great Basin tribes can be found in Ortiz (1983) and D'Azevado (1986), respectively.

##### *Previous Cultural Resource Inventories within the LCR MSCP Planning Area*

Examination of the 80+ 7.5' U.S. Geological Survey (USGS) quadrangles covering lands encompassed by the 30 potential conservation areas indicates numerous cultural resource inventories have been conducted around Lakes Mead, Mohave, and Havasu, and along the corridor of the LCR. For the most part, these inventories have been performed in support of the section 106 compliance process and are limited in scope, covering only a small percentage of the total land area encompassed by the potential conservation areas. Survey coverage is generally spotty, with a tendency for recent inventories to be concentrated in the vicinity of developed recreation areas and other facilities around the lakes, and in areas around developed population

centers and recreation areas along the river corridor, with little inventory occurring on the floodplain in intervening areas. While numerous inventories have been conducted in upland areas along the river corridor, Class III (100 percent) inventory of locations on the historic floodplain itself has been extremely limited. Class III inventories in upland areas bordering the historic floodplain of the Colorado River have resulted in the identification of numerous prehistoric sites. In contrast, Class III inventories performed on the historic floodplain seem rarely to result in the identification of prehistoric or historic cultural resources. More detail regarding this issue is provided in the *Previously Recorded Sites Within and Adjacent to the Planning Area* discussion below.

#### *Government Land Office Resources within the Planning Area*

The Class I records search included Government Land Office (GLO) township survey plats on file at BLM offices in Arizona, California, and Nevada. GLO township survey plats and surveyors notes frequently make reference to various cultural features present in an area at the time the township was being platted or re-surveyed (some townships in areas along the lower Colorado River were first platted over 100 years ago). GLO township survey plats can thus be a good source of information regarding the kinds of historic period cultural resources that might be present in an area. In some cases, GLO surveyors also noted the presence of prehistoric cultural resources including ruins, petroglyph sites, and "Indian trails."

In excess of 566 GLO resources were identified during the examination of the GLO township survey plat maps. Table 3.5-2 lists the number of GLO resources identified in each of the potential conservation areas. In some cases roads and fences occurred with such high frequency it would have been prohibitively time consuming to individually number and describe them. In these cases researchers assigned a single number to roads or fences that were relatively short in length. In other cases, one or more cultural features on an old township plat was labeled as a cluster or group of houses or other types of structures, making it impossible to derive a count of the specific kinds of resources present at that particular location. As a result of these factors, the GLO resource counts provided in Table 3.5-2 should be taken to reflect the minimum number of GLO resources present within a particular area.

A wide variety of historic features were identified on GLO township plat maps within areas covered by the planning area. Roads/highways (n=198+) are the most frequently noted historic features on the GLO plat maps. Structures used for habitation (shacks, cabins, houses, ranches, camps) occur with the next highest frequency (n=77+), followed by fences (n=59+), fields/cultivated fields/fenced fields and lots (n=46+), mining claims and physical features associated with mining (e.g., mills, shafts, etc.; total n=44+) other types of structures (including sheds, a "pumping pump," wells, windmills, monuments, a pumping plant, a barn, a pipeline, and a bridge; n=29), desert land claims and a forest lien claim (n=25), and ditches (n=21). Other GLO resources noted as occurring within the potential conservation areas include trails (n=17, including 3 noted as "Indian trail"), railroads (n=8, with the Southern Pacific Railroad occurring in at least 3 potential conservation areas thus reducing the actual number of railroads to 5), canals (n=8), corrals (n=7), townsites and resorts (n=6, including St. Thomas, Callville, El Dorado, Doudville, Norton's Landing, and La Paz), telephone and telegraph lines (n=5), military and hay and wood reservations (n=5; actual count is 3 owing to the occurrence of Fort Mohave and its hay and wood reservation in 2 Potential conservation areas; the other military

**Table 3.5-2. Summary of Previously Recorded Sites and GLO Resources Within the Potential Conservation Areas within the Planning Area and Off-Site Areas**

<i>Reach No.</i>	<i>COA Name</i>	<i>Number of GLO Resources Identified</i>	<i>Number of Previously Recorded Sites</i>
1	Upper Lake Mead	0	22
	Lake Mead (inundated)	58	93
	Lake Mead 1 Mile Buffer	31	245
2	Lake Mohave (inundated)	35	128 (47)*
	Lake Mohave 0.25 Mile Buffer	7	89
3	Fort Mojave	8	34
	Topock	98	18
	Lake Havasu (inundated)	30	7
	Lake Havasu 0.25 Mile Buffer	4	20
4	North CRIT	3	0
	East-Central CRIT	24	5
	West CRIT	17	4
	East CRIT	55	4
	South CRIT	6	0
	Big Hole	1	0
	North Palo Verde	1	7
	South Palo Verde	4	0
	Cibola Valley Irrigation & Drainage District	19	1
	Palo Verde Oxbow	2	6 (0)**
	Cibola	57	17 (5)**
5	North Imperial	15	21 (4)**
	South Imperial	5	20 (1)**
6	Laguna	0	24 (18)**
	Yuma	9	17 (11)**
7	Limitrophe	1	6 (5)**
n/a	Lower Virgin River	4	26
n/a	Bill Williams	22	2
	Planet Ranch	47	4
n/a	Lower Gila River	3	2
<b>All</b>	<b>Totals for LCR MSCP APE</b>	<b>566</b>	<b>822 (674)</b>
<p>*Number in parentheses represents the number of sites that would be present were features within sites assigned separate site status by Baldwin to be grouped into single sites.</p> <p>**Number in parentheses represents the number of sites within a particular COA following elimination of sites for which no information is available, and Imperial County GLO point plots, which are better treated as GLO resources, not known site locations.</p>			

feature is Old Fort Callville, now submerged beneath the waters of Lake Mead), ferries (n=3, including Gregg's and Bonelli's and one unnamed), salt mines (n=2), a cemetery (at El Dorado which was moved to Nelson's Landing prior to the inundation of El Dorado by the rising waters of Lake Mohave); and 6 natural features (including a named rock/outcrop, seeps, springs, and hot springs).

#### *Sites Listed on the NRHP Within or in Close Proximity to the Planning Area*

During the course of the Class I records search the National Register Information System was queried to determine if any sites listed on the NRHP fall within or in close proximity to the planning area. A total of eight sites were found listed on the register (see Table 3.5-3). Two of these, Pueblo Grande de Nevada (26CK7; better known as "Lost City") and Hoover Dam (which has been designated a National Historic Landmark), fall within the Lake Mead and Lake Mead 1 Mile Buffer Potential conservation areas. Lost City is located on lands managed by Reclamation and the NPS, while Hoover Dam is operated and maintained by Reclamation. Two other sites, the Willow Beach Gaging Station and the Homestake Mine (26CK3126) are located in the Lake Mojave 0.25 Mile Buffer conservation opportunity area on lands managed by the NPS. The Ripley Intaglios are located on the east side of the Colorado River about 10 miles south of Blythe (Holmlund 1993). The site is located on the first terrace overlooking the historic floodplain of the Colorado River, so is situated adjacent to but not within the APE of the Conservation Plan. The Ripley Intaglios are individually listed, but also contribute to a larger thematic nomination encompassing many of the ground figure groups located along the lower reaches of the Colorado and Gila rivers. The Ripley Intaglios themselves are located on Reclamation withdrawn lands and lands administered by the BLM Yuma Field Office (BLMYFO). The Martinez Lake/Fisher Landing Site (AZ X:3:13) is a large prehistoric site located in an elevated position on a knoll near the eastern bank of the Colorado River. The land on which the site is located is administered by the BLM YFO. The Ocean to Ocean Bridge was the first highway bridge constructed across the Colorado River. Constructed in 1915 by the Office of Indian Affairs, the bridge served as the river crossing for Highway 80 in Yuma, Arizona. The area surrounding Yuma Crossing and Associated Sites has been designated a National Historic Landmark. The Landmark boundaries straddle the Colorado River taking in the area surrounding the Quartermaster Depot and the Yuma Territorial Prison on the south, and the St. Thomas Yuma Indian Mission on the north. Lands within the Landmark boundaries south of the river are administered by Arizona State Parks and the City of Yuma, while lands to the north of the river are managed by the Fort Yuma Quechan Tribe.

#### *Previously Recorded Sites Within and Adjacent to the Planning Area*

A majority of the site data received from the various repositories contacted during the records search is best considered "legacy data." Legacy data is here defined as information collected by professionals and amateurs that, in general, do not meet current Federal, state, or professional standards for site recording. As a result, many site forms lack basic descriptive data, and most do not have accurate data regarding the NRHP eligibility of the resource. Even in those cases where the recorder included an eligibility recommendation on the site form or in the body of the report, there is no indication in repository records whether or not the Federal agency, and

**Table 3.5-3. Historic Properties Listed on the NRHP that Fall Within or Immediately Adjacent to the Planning Area**

<i>State</i>	<i>County</i>	<i>COA Name</i>	<i>USGS Quad</i>	<i>Property Name</i>	<i>Managing Agency</i>
NV	Clark	Lake Mead & Lake Mead Buffer	Overton, Overton Beach, Valley of Fire East	Pueblo Grande de Nevada/Lost City/26CK7	NPS/Reclamation
AZ/NV	Mohave/Clark	Lake Mead Buffer	Hoover Dam	Hoover Dam National Historic Landmark	Reclamation
AZ	Mohave	Lake Mohave Buffer	Willow Beach	Willow Beach Gaging Station	NPS
NV	Clark	Lake Mohave Buffer	Davis Dam	Homestake Mine/26CK3126	NPS
AZ	La Paz/Yuma	South CRIT & Big Hole	Mule Wash	Ripley Intaglios	BLMYFO
AZ	Yuma	South Imperial	Imperial Reservoir	Martinez Lake/Fisher Landing/AZ X:3:13	BLMYFO
AZ/CA	Yuma/Imperial	Yuma	Yuma East	Ocean to Ocean Bridge	NRHP states "Local"
AZ/CA	Yuma/Imperial	Yuma	Yuma East	Yuma Crossing & Associated Sites National Historic Landmark	AZ State Parks/City of Yuma/Fort Yuma Quechan Tribe

subsequently the SHPO or the Keeper of the Register, concurred with the recommendation. As a result, there is no way to state with any certainty how many sites located within or in proximity to the planning area have been found eligible or potentially eligible for listing on the NRHP.

The criteria used to define what is and what is not a site have changed through time. In the early days of section 106 compliance surveys, scatters of 2-3 artifacts were often recorded as sites and assigned permanent state site numbers. Today, such scatters would be considered isolated occurrences and would not be entered into repository records with permanent site numbers. To determine how many sites listed in the LCR MSCP database might actually be isolated artifacts or isolated occurrences would be prohibitively time consuming, thus for the purpose of this analysis it is assumed all resources listed in the database represent sites, with the exceptions described in the following paragraph. Southeast Information Center records for Imperial County contain numerous site forms for linear features that appear in the surveyors' notes accompanying the original GLO township plat maps. These linear "sites" are commonly plotted as a point along a township grid line and are only cursorily described on the site form with a phrase from the surveyor's notes (e.g., "cross trail bearing north and south"). Since there is nothing in the Imperial County site records indicating any field reconnaissance has ever been performed to confirm the presence of physical remains of cultural features at the plotted

locations, these “sites,” like the GLO resources discussed above, are best viewed as being suggestive of the kinds of historic features that might be present in the planning area.

A total of 822 previously recorded sites appear in the LCR MSCP site database (Table 3.5-2). If sites for which no data is available and Imperial County GLO point plot data are eliminated, the total number of sites falls to 755. The actual number of sites present is even somewhat lower than this. Many of the sites in the Lake Mohave and Lake Mohave 0.25 Mile Buffer potential conservation opportunity areas were recorded by Baldwin (1943, 1948) prior to construction of Davis Dam. Field observations made by Reclamation and NPS cultural program staff regarding several sites recorded by Baldwin indicate he assigned separate site status to individual features within larger sites. If one treats Baldwin’s site clusters as single sites, rather than several individual sites as they appear in the record, the number of sites in the Lake Mohave 0.25 Mile Buffer conservation opportunity area is reduced from 128 to 47, thus decreasing the total number of sites in the Conservation Plan APE as a whole to 674.

Some general observations can be made with respect to the kinds of sites located within or adjacent to the potential conservation areas, and how these are distributed across the landscape. Lithic scatters, and lithic and ceramic scatters, have been recorded in virtually all the conservation areas. Large concentrations of heat-altered rock believed to represent mesal/agave roasting features appear in the records for only the Upper Lake Mead, Virgin River, and Lake Mead One Mile Buffer potential conservation areas. Rock rings, rock alignments, cleared circles and trails are common features in many of the potential conservation areas and are found in isolation or as features within larger sites. Rock shelters exhibiting evidence of human occupation have been recorded in the Upper Lake Mead, Virgin River, Lake Mead and Lake Mead One Mile Buffer, and Lake Mohave and Lake Mohave 0.25 Mile Buffer potential conservation areas where there are rock formations conducive to shelter formation. Petroglyph sites have been recorded in the Lake Mohave, Topock, Lake Havasu, and Planet Ranch potential conservation areas; sites with pictographs occur only in the Upper Lake Mead area. Ground stone quarrying and manufacturing sites occur only in the records for the Fort Mojave area. Sites containing intaglios (also called geoglyphs, ground figures, and gravel features in the records) have been recorded in proximity to the Fort Mojave, Topock, Lake Havasu 0.25 Mile Buffer, and Cibola potential conservation areas.

Historic site types recorded within and in proximity to the potential conservation areas include ruins of adobe and wood houses, rock cabins, tent pads, survey markers, mineral prospects, claim cairns, a mill, railroad grades, wagon roads, and trash dumps. Numerous historic period sites occur in the vicinity of Hoover Dam that are associated with the construction and operation of the dam. The vast majority of the historic period sites recorded in the South Imperial, Laguna, Yuma, Limitrophe, and lower Gila River potential conservation areas are irrigation facilities associated with the historic Yuma Irrigation Project and the Gila Project irrigation systems. Overall, historic period site distribution is relatively random, with sites appearing in a variety of environmental and geomorphological contexts.

As noted above, LCR MSCP project and site data are still in the process of being evaluated. As a result, it is not possible at this time to provide generalized statements concerning the distribution of sites in the vicinity of Lakes Mead, Mohave, and Havasu. The following discussion thus focuses on general observations concerning the distribution of prehistoric sites

1 along the Colorado River corridor. Careful examination of site location maps accompanying the  
2 LCR MSCP Class I draft report indicates while a significant number of prehistoric sites have  
3 been recorded on terraces and ridges in upland areas immediately adjacent to and overlooking  
4 the historic floodplain, very few prehistoric sites have been recorded on the historic floodplain  
5 proper. Where prehistoric sites have been documented on the floodplain they are described as  
6 occurring on geomorphological features such as sand dunes, ridges of very low relief, and low  
7 knolls, that are slightly elevated above floodplain sediments.

8 Lack of extensive Class III inventory coverage on areas of the historic floodplain of the Colorado  
9 River is a likely explanation for the low numbers of documented prehistoric and historic sites  
10 on the historic floodplain. However, the results of recent research done in the vicinity of Yuma,  
11 Arizona, suggest an alternative explanation that is worthy of further testing in other areas along  
12 the river. Examination of historic maps during archival work conducted in association with a  
13 series of cultural resource inventories near Yuma (i.e., Bischoff et al. 1998; Huber et al. 1998a  
14 and 1998b; Sterner and Bischoff 1998), indicated the river altered its course several times  
15 between the 1840s and 1950s, in one case meandering 2 miles across its floodplain. Evaluation  
16 of geomorphological test trenches placed on the floodplain in areas behind the modern levees  
17 consistently revealed the presence of sedimentary deposits characteristic of a high energy  
18 fluvial environment (Sterner and Bischoff 1998; Huber et al. 1998a and 1998b). Sediments laid  
19 down under high energy fluvial conditions are extremely unlikely to contain in situ cultural  
20 remains. Inventory of several parcels on the historic floodplain of the Colorado River was also  
21 revealing. Only recent trash was found on parcels located inside the levee system, while the  
22 earliest cultural materials identified on parcels outside but in close proximity to the levees, post-  
23 dated levee construction. Prehistoric cultural remains recorded during the inventories were  
24 confined to elevations on the first terrace above the historic floodplain. The results of these  
25 inventories suggest there should be few prehistoric or historic sites on the historic floodplain of  
26 the Colorado River that will pre-date the construction of Hoover, Davis, and Parker Dams,  
27 and/or local levee systems. The applicability of the results of the Yuma inventories to other  
28 areas along the river remains to be tested.

29 Various authors (e.g., Stone 1991) have suggested the low frequency of occurrence of sites on  
30 the historic floodplain of the Colorado River might also be explainable by their burial. Recent  
31 monitoring of trenching operations associated with construction of the North Baja Pipeline  
32 across the river and downstream from Ehrenberg, Arizona, resulted in the discovery of a  
33 number of subsurface lenses of charcoal and ash associated with lithic and ceramic artifacts.  
34 Preliminary examination of these deposits by a geomorphologist suggests they are associated  
35 with surfaces representing the first terrace above the historic floodplain that have been buried  
36 as a result of colluvial and sedimentary depositional processes (personal communication, R. M.  
37 Apple 2002).

38 It is also possible many sites that may have been located on the historic floodplain of the  
39 Colorado River have been destroyed by historic period development. Descriptions of the few  
40 prehistoric sites that have been recorded on the historic floodplain suggest such sites are  
41 relatively small, artifact densities are low, and cultural remains are restricted to surface  
42 contexts, thus they would be extremely susceptible to destruction by activities associated with  
43 urban development and intensive agriculture.

1 In summary, the draft Class I inventory suggests the following:

- 2 • Most areas have not been completely surveyed according to modern standards.
- 3 • Nonetheless, a wide range of prehistoric and historic resources are known or predicted  
4 to occur within the planning area. Many site types are non-randomly distributed,  
5 reflecting geographic variations in settlement and subsistence patterns.
- 6 • Many sites are poorly documented because they were recorded before modern  
7 standards were the norm or because they were recorded from archival (GLO) sources  
8 and their existence has not been verified by field surveys.
- 9 • The GLO data, therefore, are best considered as suggestive of the types of historic  
10 resources that might be present within the planning area.
- 11 • Most intensive inventories have been conducted in upland areas adjacent to the  
12 potential conservation areas located in the historic floodplain. These inventories have  
13 located numerous prehistoric sites, particularly on terraces adjacent to but above the  
14 floodplain.
- 15 • In contrast, few intensive inventories have been conducted on the historic floodplain  
16 and these have located few prehistoric or historic cultural resources.
- 17 • Existing data indicate that the low frequency of cultural resources found on the historic  
18 floodplain within the potential conservations areas is probably due to multiple factors:
  - 19 – In some places natural movements of the river channels probably have destroyed  
20 most resources that predate the early to mid-twentieth-Century construction of the  
21 Hoover, Davis, and Parker Dams and/or local levee systems.
  - 22 – In some areas geomorphic processes have buried first terraces and the archaeological  
23 sites located on them.
  - 24 – In some places, sites have been destroyed by historic and modern period  
25 development.

#### 26 *Traditional Cultural Property Identification: Consultations with Tribes*

27 As the lead Federal agency for environmental compliance activities associated with this action,  
28 Reclamation initiated government-to-government consultation with tribes early in the planning  
29 process. Letters were sent to tribal leaders, and tribal natural resource and cultural resource  
30 specialists explaining the Conservation Plan. The purpose of the Conservation Plan was  
31 explained, and the tribes on whose reservations activities might be implemented (i.e. the  
32 Hualapai, Fort Mojave Indian Tribe, CRIT, the Chemehuevi Tribe, the Fort Yuma Quechan  
33 Tribe, and the Cocopah Indian Community) were invited to become partners in the effort.  
34 Several meetings were later held with leaders of these tribes during which tribal representatives  
35 were able to express their general concerns and interests in the project. In November 2000,  
36 Reclamation sent a certified letter to tribal leaders and tribal cultural resource specialists  
37 requesting information concerning traditional cultural properties (TCPs) that might be present  
38 in the potential conservation areas. This letter was sent to the following tribes and  
39 communities:

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Chemehuevi Tribe	Hualapai Tribe
Cocopah Indian Community	Kaibab Paiute Tribe
Colorado River Indian Tribes	Las Vegas Paiute Tribe
Fort McDowell Mohave-Apache Community	Moapa Paiute Tribe
Fort Mojave Indian Tribe	Navajo Nation
Fort Yuma Quechan Tribe	Paiute Tribe of Utah
Gila River Indian Community	Pueblo of Zuni
Havasupai Tribe	Yavapai Tribe
Hopi Tribe	

Reclamation also sent the same letter to several interested parties including the Las Vegas Indian Center, the Pahrump Paiute Tribe, the Shivwits Band of Paiute, and the Southern Paiute Consortium. Reclamation and representatives from Archaeological Consulting Services Ltd. followed up the November 2000 letter with phone calls to tribal leaders and tribal cultural resource specialists. All tribal representatives declined to provide information concerning TCPs and sacred sites that might be located within the Potential conservation areas, indicating whether or not to disclose such information was better considered when more was known concerning where specific projects would be located and what the potential impacts might be.

As part of the background research for the North Baja Pipeline Project Kirkish et al. (2000) prepared a general overview of the kinds of cultural resources typically of general concern to tribes in southern California. Such resources include: geoglyphs, trails, white quartz, "vision quest" and "prayer circles," rock art (petroglyphs and pictographs), cleared circles, "spirit breaks" and "deflectors," and cairns or shrines. For more information concerning the importance of these kinds of resources the reader is referred to Ezzo and Altschul (1993), Kirkish et al. (2000), and Schnieder and Altschul (2000).

#### **3.5.1.2 Muddy River/Moapa Valley and Virgin River**

These river valleys are generally known to be sensitive for cultural resources. Table 3.5-2 indicates that four GLO resources have been documented from archival sources and 26 sites have been recorded in the off-site conservation area.

#### **3.5.1.3 Bill Williams River**

This river valley is likely sensitive for cultural resources, although few resources have been actually recorded so far. Table 3.5-2 indicates that 69 GLO resources have been documented in the Bill Williams/Planet Ranch areas from archival sources, while field survey has resulted in the recordation of six sites within the off-site conservation areas. The low numbers of recorded sites could reflect the lack of intensive survey or specific characteristics of the off-site conservation areas.

#### 3.5.1.4 Lower Gila River

The Gila River is generally considered sensitive for cultural resources, although few resources have been documented in the specific location selected for off-site conservation. Table 3.5-2 indicates that three GLO resources have been documented from archival sources and field surveys have recorded two sites in the off-site conservation area.

#### 3.5.2 Environmental Consequences

##### *Significance Criteria*

In accordance with 36 CFR 800 (a)(1), an adverse effect to a historic property eligible for inclusion in the NRHP is found when "...an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify that property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association." In accordance with CEQA, an impact on cultural resources would be considered significant if it adversely affects a resource listed in or eligible for listing in the NRHP, state registers, or is otherwise considered a unique, important or significant resource under relevant cultural resource laws, guidelines, and regulations. In general, a project may have an adverse effect on a cultural resource if the resource would be physically damaged or altered, would be isolated from the context considered significant, or would be affected by project elements that would be out of character with the significant property or its setting.

The American Indian Religious Freedom Act of 1978 establishes that it is the policy of the Federal government to "protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the(ir) traditional religions..." EO 13007 elaborates and strengthens the Act and directs Federal agencies to avoid adversely affecting "sacred sites." Title 36 CFR 800 addresses the consideration of Native Americans and other interested parties in the process of evaluating impacts on cultural resources. Specific impacts that would be considered adverse and significant are determined in consultation with such parties. For present purposes, any action that could disturb or destroy archaeological sites, biological habitats, topographic features or other properties associated with Native American religious ceremonies would be considered adverse and significant.

##### 3.5.2.1 Alternative 1: Proposed Conservation Plan

##### *Impacts*

Prior to implementing specific projects, LCR MSCP participants would be required to comply with the environmental compliance and historic preservation laws and regulations in effect at the time. Current laws and regulations require agencies to identify cultural resources and to evaluate these for potential listing on Federal and state registers in consultation with the SHPOs, tribes, and other interested organizations and individuals. Agencies are further required to assess the effects of an undertaking on those properties found eligible for listing on the NRHP, and to mitigate, in so far as is possible, adverse effects to those properties if they can not be avoided through project redesign or by other means.

**Impact CULT-1: Disturbance of the ground surface could directly or indirectly disturb or destroy significant archaeological or historical resources, particularly in undeveloped or previously undisturbed areas.** A number of the activities proposed for implementation in the Conservation Plan could result in adverse effects to historic properties if such are present in the area of a planned conservation project. Controlled burns to remove undesirable vegetation can result in the destruction of perishable items (e.g., basketry, arrow and dart shafts, textiles, historic wooden structures, corrals, fences, etc.) that might be preserved in sites, and can cause lithics, ceramics, and the faces of rock art panels to spall. Burning can also result in physical and chemical changes in some classes of artifacts that could prevent the use of some analytical techniques, such as thermoluminescence to date ceramics. Vegetation removal using mechanical means can result in the destruction of the integrity of both surface and subsurface cultural deposits. Dredging areas that have not been previously dredged could result in the destruction of buried cultural deposits, if such exist, and/or burial of sites at dredge spoil disposal locations. Ground disturbing activities such as excavation of new channels, ditches, and shallow swales, creation of terraces and benches, and contouring and leveling areas for plantings, construction of water control structures, development of new access roads, etc., all have the potential to destroy surface and subsurface cultural deposits if any exist in the area of a project. Construction and use of access roads, staging areas, and other ancillary facilities associated with construction and operations can also affect cultural resources in potential conservation areas and other project areas.

The potential for cultural resource impacts in agricultural areas would be similar to those in undeveloped areas, although the number of significant sites that might be affected might be lower due to prior disturbance from plowing, contouring, disking, and other agricultural practices that disturb the ground surface. Such disturbances can destroy or reduce the integrity and information potential of some (but not all) types of sites.

This impact would be *significant but mitigable to less than significant* with implementation of **Mitigation Measure CULT-1.**

**Impact CULT-2: Cultural resources may be affected by unauthorized artifact collection during construction or by a lack of awareness of cultural resource mitigation measures on the part of construction personnel.** Construction workers may collect artifacts or unintentionally damage or destroy cultural resources unless they have a working knowledge of the nature and importance of cultural resources, laws preventing vandalism and artifact theft. This impact would be *significant but mitigable to less than significant* with implementation of **Mitigation Measure CULT-1.**

#### *Mitigation Measures*

**CULT-1:** One or more of the following mitigation measures shall be implemented (*Addresses Impacts Cult-1 and Cult-2*)

1. Consult with the appropriate SHPO(s), tribes, and other interested parties, perform archival research, interview informants, and conduct cultural resource inventories during site-specific environmental review to identify any cultural resources that may be affected. Consult with geologists, geomorphologists, and/or geophysicists to determine if there are areas that may contain buried cultural deposits and to determine the

appropriate methods/techniques for locating these. Implement subsurface exploration activities as a part of the inventory and identification program.

2. Evaluate all identified cultural resources for potential listing on the NRHP or state or local registers with respect to applicable criteria and appropriate historic themes, research questions, and data requirements as identified in regional, local, and/or project specific historic contexts.
3. Modify project design, if feasible, to avoid cultural resources found eligible for listing on the national, state, or local registers.
4. When required (i.e., in California), consult with the SHPO, tribes, and other interested parties to develop and implement, prior to construction, a "Testing and Evaluation Plan" if "potentially significant" archaeological sites cannot be avoided through project redesign.
5. If an archaeological site eligible for listing on the national, state, or local registers of historic places cannot be avoided through project redesign, in consultation with the appropriate SHPO, tribes, and other interested parties, develop and implement a Data Recovery Plan. If the eligible property is a building or structure, consult with the appropriate SHPO and other interested parties, and document the resource to the agreed to standards.
6. Develop a Cultural Resources Construction Monitoring Plan prior to construction if ground disturbance would occur within any areas of potential archaeological sensitivity.
7. In the event of an unanticipated cultural resource discovery during construction, re-direct construction to other areas until the discovery has been documented by a qualified archaeologist and its potential significance evaluated in terms of applicable criteria. Resources considered significant would be avoided or subject to a testing and evaluation program and/or a data recovery program as described above.
8. If the project has the potential to discover or otherwise result in the excavation of Native American cultural items on Federal or tribal lands, then the appropriate Federal agency or agencies will initiate consultation with any known lineal descendants and relevant Indian tribes as per the Native American Graves Protection and Repatriation Act (NAGPRA). Consultation would identify, among other things, procedures that would be followed in the event that project-related activities resulted in the excavation or discovery of Native American human remains on Federal or tribal lands. If cultural resources or human remains were discovered on non-Federal or non-tribal lands, state and local laws would be followed.
9. Procedures that would be identified under item 8, above, would be incorporated into all archaeological testing and data recovery plans and the Cultural Resources Construction Monitoring Plan as appropriate.

#### *Residual Impacts*

Residual impacts would be *less than significant* because implementation of the mitigation measures noted above would ensure compliance with all regulatory requirements and the avoidance or recovery of significant cultural resources.

### 3.5.2.2 *Alternative 2: No Action Alternative*

Under the no action alternative, it is likely that conservation measures similar to those included in the proposed action would be implemented because compliance with the ESA still would be required for the covered actions, although some conservation could occur in the off-site conservation areas (as described in section 3.5.2.4 below), as well as along the LCR. **Impacts CULT-1 and CULT-2** apply to this alternative, although the smaller size of the floodplains on the tributaries could limit the potential for agencies to redesign projects to avoid impacts to historic properties; thus the probability that such properties might be affected could potentially increase to the extent that conservation were implemented in the off-site conservation areas. It is estimated that the no action alternative would develop fewer acres of conservation area than the proposed action, which would result in proportionately fewer cultural resource impacts. However, since the no action alternative would result in increased need for infrastructure, additional impacts to cultural impacts would result from the construction of these facilities. Thus, overall cultural resource impacts would be similar to those under the proposed action.

#### *Mitigation Measures*

Mitigation measures would be developed as appropriate in the course of project-specific environmental reviews. If significant impacts are identified, mitigation measures similar to those identified in this EIS/EIR (**Mitigation Measure Cult-1**) could be implemented. Developing and implementing such mitigation measures is outside the authority of the lead agencies and is beyond the scope of this EIS/EIR.

#### *Residual Impacts*

Residual impacts would be *less than significant* because mitigation measures are available that would reduce or avoid significant impacts to cultural resources.

### 3.5.2.3 *Alternative 3: Listed Species Only*

**Impacts CULT-1 and CULT-2** apply to this alternative. The same types of impacts would occur as described for the proposed action, but the overall magnitude would be lessened since a smaller amount of conservation area would be established.

#### *Mitigation Measures*

**Mitigation Measure CULT-1** applies to this alternative.

#### *Residual Impacts*

Residual impacts would be *less than significant* because implementation of the mitigation measures noted above would ensure compliance with all regulatory requirement and the avoidance or recovery of significant cultural resources.

### 3.5.2.4 *Alternative 4: Off-Site Conservation*

**Impacts CULT-1 and CULT-2** apply to this alternative. This alternative would contain the same elements as the proposed action (i.e., the number of acres subject to ground disturbing

activities is the same), except that establishment of upland land cover types and the establishment of marsh would be focused on the lower reaches of the Virgin, Muddy, Bill Williams, and Gila rivers. The 360 acres of backwater establishment would still occur within the planning area. Impacts of implementing this alternative generally would be similar to those of the proposed Conservation Plan, although the smaller size of the floodplains on the tributaries could limit the potential for agencies to redesign projects to avoid impacts to historic properties; thus the probability that such properties might be affected could potentially increase under this alternative.

#### *Mitigation Measures*

**Mitigation Measure CULT-1** applies to this alternative.

#### *Residual Impacts*

Residual impacts would be *less than significant* because implementation of the mitigation measures noted above would ensure compliance with all regulatory requirements and the avoidance or recovery of significant cultural resources.